$s = \dfrac{d(\triangle x_0)}{dx}$. But by Hooke's Law, $s = \dfrac{p}{E}$. Hence, $\dfrac{d(\triangle x_0)}{dx} = \dfrac{p}{E}$

$$= \frac{13.596gx}{E}, \text{ or } d(\triangle x_0) = \frac{13.596gxdx}{E}, \text{ and}$$

$$\therefore \triangle x_0 = \frac{13.596g}{E} \int_0^{x_0} x dx = \frac{13.596g(\frac{1}{2}x_0^2)}{E} = \frac{6.798gx_0^2}{E}$$

$\therefore$ The depth of the ocean required is $x = x_0 - \triangle x_0$

$$= \frac{E}{27.192g} - \frac{6.798g}{E}\left(\frac{E}{27.192g}\right)^2 = \frac{E}{27.192g}\left[1 - \tfrac{1}{4}\right]$$

$$= \frac{3E}{108.768g}\text{cm.} = \frac{3E}{108.768 \times 160933 \times g}\text{mi.}$$

Using $g=981$, and $E=33 \times 10^{10}$, we have $x=61.8$ miles.

REMARK. We are unable to get data from which to obtain Dr. Zerr's value for the volume resilience. The value of E as given in Kimball's *Physics*, page 158, and which we have used in the above solution, is very different from what would be obtained from Dr. Zerr's value for volume resilience.

NOTES AND NEWS.

The fifth regular meeting of the Southwestern Section of the American Mathematical Society was held at Washington University, St. Louis, Missouri, on Saturday, December 2, 1911.   S.

The eighteenth summer meeting of the American Mathematical Society was held at Poughkeepsie, New York, on September 12-13, 1911. There were about thirty-five members in attendance and twenty-six papers were presented.   S.

The twenty-ninth regular meeting of the Chicago Section of the American Mathematical Society will be held at the University of Chicago on Friday and Saturday, December 29, 30, 1911. Titles and abstracts of papers to be presented at this meeting should be sent to the secretary of the Section, Professor H. E. Slaught, the University of Chicago, Chicago, Illinois.   S.

Dr. Jacques Hadamard, Professor of Analytic and Celestial Mechanics in the Collége de France, lectured at Columbia University five times each week in October. He also delivered two lectures at the University of Chicago on October 31 on the topics: (1) Certain Mathematical Improvements likely to be useful in the study of Physics; (2) Psychology of Mathematicians. S.

We learn from *Science* that the Jean Reynaud prize of ten thousand francs, awarded by the Paris Academy of Sciences every five years, has been bestowed this year on Professor Emile Picard, for his contributions to mathematics. And from the same journal we learn that the DeMorgan medal of the London Mathematical Society has been awarded to Professor Horace Lamb, F. R. S., for his research in Mathematical Physics. F.

Editor Miller, in *Science* for December 1, has pointed out a number of mathematical errors in the eleventh edition of *Encyclopedia Britannica*. Among the errors pointed out by Professor Miller are, (1) the incorrect statement of the origin of *zero*, (2) the first use of the term *abscissa*, and (3) the first use of $\phi(n)$. We remark in passing that in our judgment the eleventh edition of this monumental work is not up to the standard of excellence for the mathematician as is the ninth edition. F.

The annual conference of the University of Chicago with the secondary schools, which has heretofore been held in November, has been postponed till March, 1912, in order that a comprehensive plan of visitations may be carried on during the autumn and winter, both by secondary teachers at the University and by instructors in the University among the schools. The reports of these visitations are to form the basis of the next conference and it is expected that much mutual benefit will be derived from such a scheme of co-operation between the schools and the University. S.

Several of the reports of the American committees of the International Commission on the Teaching of Mathematics have been published by the United States Bureau of Education, and are not being distributed by the bureau. These reports are of the greatest value to teachers of mathematics and should be eagerly sought by them.

There has come to us the report of committees Nos. V, VII, IX, X, XII. Committee No. V made a report on the Training of Teachers of Elementary and Secondary Mathematics; Committee No. VII, on Examinations in Mathematics Other Than Those Set by the Teacher for His Own Classes; Committee No. IX, Mathematics in the Technological Schools of Collegiate Grade in the United States; committee No. X, Undergraduate Work in Mathematics in Colleges of Liberal Arts and Universities; and Committee No. XII, Graduate Work in Mathematics in Universities and in Other Institutions of Like Grade in the United States. F.

The one hundred and fifty-fifth regular meeting of the American Mathematical Society was held at Columbia University, New York City, on Saturday, October 28, 1911. S.

The preliminary report of the National Committee of fifteen on Geometry Syllabus was the subject of discussion at the autumn meeting of the Middle States and Maryland Association of teachers of mathematics. It was also discussed at the meeting of the mathematics section of the high school teachers of Chicago, November 11, 1911. There is a constant demand for copies of this report which cannot be supplied until the committee complete the revision at which they are now working, when another edition will be printed for general distribution and a regular sale price will be determined. S.

One of the editors desires to put on record a dream in regard to mathematical notation. He thought he was visiting a class in elementary mathematics and heard the instructor say "x sub sucker r from 0 to 10." Several students inquired what he meant and he explained that this was his way of expressing the relation x_r, $0 \leqq r \leqq 10$, as r was between the suckers $<$, $<$. Moreover, this appeared to be in accord with the statement in the Scriptures, "Whosoever hath, to him shall be given, and he shall have more abundance; but whosoever hath not, from him shall be taken away even that he hath." The symbol $<$ seemed to suck from the smaller towards the larger. M.

The last annual meeting of the Central Association of Science and Mathematic Teachers was held at Lewis Institute, Chicago, Illinois, on November 30 and December 1, 1911. This association has for years been carrying forward progressive and consistent work along all lines of science and mathematics. In the latter it has developed reports on algebra, geometry, and unified mathematics, which have had widespread influence all over the country, but especially in the middle West. Every secondary teacher of any of these subjects within this territory should be allied with this association. *School Science and Mathematics* is the official publication of this association. S.

The annual conference of the University of Illinois with the secondary schools was held on Thursday, Friday, Saturday, November 23-25, 1911. An important report of a committee on Geometry was made at this meeting. The University of Illinois has conducted for several years, in co-operation with the high schools, a careful study of the secondary curriculum, with a view to formulating programs of study in the various subjects. Two years ago an excellent report on Algebra was adopted and incorporated in the official publication of the conference. Last year the Geometry report in preliminary form was the topic in two long sessions of the Mathematical Section. This year it was presented in final form. S.